IN THE CLAIMS:

Please cancel claims 1-22 and 26-28 without prejudice, and amend claims 29 and 32.

1-22. (Canceled).

23. (Previously Presented) An apparatus for debugging an electronic system, said electronic system including a target microcontroller (MCU) and at least one ROM connected together, comprising:

a debugger unit for debugging said target MCU;

a debugger MCU for communicating with said debugger unit and with said target MCU, and for performing requests from said debugger unit and said target MCU;

a ROM/RAM emulator board, connected to said debugger unit, said emulator board being disposed to emulate said ROM of said target MCU, said emulator board including a ROM/RAM emulation memory and an emulator MCU, said emulation memory being disposed to store user program codes downloaded from said debugger unit, said emulator MCU being disposed to read and write data from and to said ROM/RAM emulation memory; and

a target/debugger board, connected to said emulator board, said target/debugger board including a bus mapping unit, a debugger RAM, said target MCU and said debugger MCU.

24. (Original) The apparatus of claim 23, further comprising a debugger service routine ("debugger SR") downloaded from said debugger unit into said ROM/RAM emulation memory with said user program codes from said debugger unit.

25. (Original) The apparatus of claim 24, further comprising a communication buffer implemented in said emulation memory, said communication buffer being disposed to store status, request and data by said target MCU and by said debugger MCU.

26-28. (Canceled).

29. (Currently Amended) An apparatus for debugging an electronic system, comprising:

a debugger unit;

a ROM/RAM emulator/debugger/target board, connected to said debugger unit, said emulator/debugger/target board including:

an emulator/debugger/target MCU having a target MCU that is debugged by the debugger unit, the emulator/debugger/target MCU communicating with said debugger unit, and performing requests from said debugger unit and said target MCU;

a debugger RAM that stores [[and issues]] requests;

a bus mapping unit;

a ROM memory, disposed to store service routines, the ROM memory further including a debugger service routine ("debugger SR") which parses the requests issued by the debugger RAM; and

a ROM/RAM emulation memory being disposed to store user program codes downloaded from said debugger unit.

30. (Canceled).

31. (Original) The apparatus of claim 29, wherein said debugger RAM is implemented inside the emulator/debugger/target MCU.

32. (Currently Amended) An apparatus for debugging an electronic system, comprising:

a debugger unit;

a ROM/RAM emulator/debugger/target board, connected to said debugger unit, said emulator/debugger/target board including:

an emulator/debugger/target MCU having a target MCU that is debugged by the debugger unit, the emulator/debugger/target MCU communicating with said debugger unit, and performing requests from said debugger unit and said target MCU, said emulator/debugger/target MCU including a debugger RAM and a ROM memory, with the debugger RAM storing [[and issuing]] requests;

a ROM/RAM emulation memory being disposed to store user program codes downloaded from said debugger unit; and

a debugger service routine ("debugger SR") which parses the requests issued by the debugger RAM.